

Subject Index

A

Abdominal pain, 238

Acid secretion, 249

Acoustic stress, 255

Adjuvant-induced arthritis, 31

Adoptive transfer, 34

Adrenalectomized animals, 30

Adrenalectomy, changes in peptide makeup after, 43

Adrenocortical response to stress, 71

Adrenocorticotrophic hormone

circulating concentrations of, 189

diurnal changes in, and CRF mRNA, 28

levels of, in stressed rats, 143

release of, injection of exogenous ILs and, 97

Adrenocorticotropin levels, prenatal alcohol exposure and, 89

Age, 209

Alcohol exposure, prenatal, 86, 92

Amygdaloid CRF pathways, 53

Anisolylated glutamyl peptides, 223

Anti-inflammatory agonists, 219

Anxiety, 53, 238

Arcuate nucleus, 119

Arginine, 235

Arousal, 61

Autonomic nervous system

bicarbonate responses and, 257

stress-induced immune suppression and, 203

B

Barrington's nucleus, 175

Behavioral anomalies, 270

Beta-endorphin system, 86

Bicarbonate secretion, 256

Bladder distention, 179

Bovine shipping fever, 285

Brain-endocrine-immune axis, CRF and IL-1 receptors in, 9

Brown adipose tissue, 156

C

c-fos, 122

c-fos mRNA, 235

Cattle (*see also* Bovine shipping fever), 275

cDNA, diagram of complete, 2-3

Central amygdala, 53, 147, 236

Central nervous system

CRF as neurotransmitter in, 142

CRF receptors in, 12

effects of, on immunity, 205

IL-1 receptors in, 13

Chickens, stress in, 285

Cholecystokinin, 236

Colonic transit (*see also* Motility, colonic), 236

Control, physiological and somatic responses to stress and, 63

Corticosteroids, release of, injection of exogenous ILs and, 97

Corticosterone

circulating concentrations of, 189

levels of

elevated, 71

in stressed rats, 143

Corticotropin-releasing factor

brain-endocrine-immune axis and, 9

central, 206

energy expenditure and, 155

fetal ethanol exposure and, 90

food intake and, 155

gonadotropin secretion and, 107

inflammation inhibited by, 219

norepinephrine in regulation of, 191

pancreaticobiliary functions and, 254

sigma receptors and, 244

small intestinal functions and, 254

ulcer disease and, 260

Corticotropin-releasing factor antagonist, 144, 147, 234

Corticotropin-releasing factor-binding protein, 1

Corticotropin-releasing factor mRNA, 28

Corticotropin-releasing factor neurons, phenotypic plasticity of, 39

Cortisol, mother-infant separation and, 62

Cyclosporine A, 33

Demand, social behavior and, 65

Depression

increased CRF release in locus coeruleus and, 182

irritable bowel syndrome and, 238

Desmethylimipramine, 183

Diarrhea, emotional state and, 238

Disease models, 285

Dogs, human-animal interaction-related stress in, 285

Domestic animals, stress and disease in, 285

Dorsal vagal complex, 55, 234

Electrocorticoencephalogram, 181

Emotional stress, 247

Endotoxin, 189

in vivo modulation of IL-1 receptors after treatment with, 19

neonatal, 81

Energy balance, involvement of CRF in regulation of, 156

Energy expenditure, CRF and, 155

Environment, obsessive-compulsive disorders and, 272
Equine paroxysmal atrial fibrillation, 285
Estrogens, involvement of CRF in effects of, 160
Estrous cycle, influence of stress on, 275, 278
Exercise, involvement of CRF in effects of, 159
Experimental allergic encephalomyelitis, 31-32

Fear, 53

Fecal output, 236
Feedback control, 90
Fenfluramine, 162
Fetal alcohol syndrome, 86
Fetal hormonal development, 88
Food intake
 CRF and, 155
 paraventricular nucleus involved in regulation of, 147
Footshock, involvement of locus coeruleus in, 174
Foraging, plasma cortisol levels and, 66
Freezing behavior, 238

Gallbladder contraction, 255

Gastric emptying, 234
 CRF-induced inhibition of, 250
 IL-1 and, 262
Gastric function, CRF in stress-related alterations in, 233
Gastric lesion, restraint ulcer as model of, 229
Gastric secretion, ulcer disease and, 260
Gastric ulcer, 265
Gastrointestinal function, sigma ligands and, 244
Gene expression, IL-1 and LHRH, 130
General adaptation syndrome, 230
Genetic predisposition, obsessive-compulsive disorders and, 273
N-Glycanase treatment, 1
Gonadotropin-releasing hormone, 106
Gonadotropins, 106

Handling

 effect of, on HPA response to stress, 73
 fetal ethanol-exposed animals and, 92
Health, relevance of stress to, 203
Hippocampal corticosteroid receptor systems, 72
Horse (*see also* Equine paroxysmal atrial fibrillation), 275
Huddling, social, 65
6-Hydroxydopamine, 195

Hyperresponsiveness, HPA and beta-endorphin, 88

Hypophysectomy, 194

Hypotension, 178

Hypothalamic-pituitary-adrenal axis

 CRF a key player in regulation of, 28
 ethanol-induced activation of, 87
rat, 97

Hypothalamus

 lateral, 236

 norepinephrine metabolism in, 191

 release of LHRH from, 117

Immune activation, 101

Immune dysfunction, fetal alcohol syndrome and, 91

Immune suppression, stress-induced, 203

Immune-brain-gut axis, 260

Immunocytochemistry, 119

Immunoneuroendocrinology, 260

Immunotargeting, 145

In situ hybridization, 119

Infection, brain-endocrine-immune responses to, 9

Inflammation, 219

Influenza virus, 189

Interleukin-1

 gastric emptying and, 236

 immunological properties of, 108

 recombinant human, 189

 ulcer disease and, 260

Interleukin-1-receptor antagonist protein, 195

Interleukin-1 receptors, brain-endocrine-immune axis and, 9

Interleukins, sites of action of, 99

Intermediate filament, 221

Intestinal water transport, 255

Irritable bowel syndrome, 233

Kynurenic acid, 179

Limbic system, 67

 role of, in behavioral responses to stress, 142

Locus coeruleus

 CRF as neurotransmitter in, 173

 gastric emptying and, 234

Luteolysis, influence of stress on, 277

Male reproduction, influence of stress on, 280

Maternal-fetal hormone balance, 93

Medial preoptic area, 118

Median eminence
 CRF and AVP levels in, 78
 external zone of, 39

Menstrual cycle, 111

Mianserin, 183

Microdialysis, 143

Modulator, peripheral and central, 1

Monoclonal antibody to CRF, 145

Mother-infant relationships, 62

Motility
 colonic, 247, 258
 gastrointestinal, 247

Mucosal protective actions, 260

Mystixins, 219

Negative feedback, HPA, 74

Neuropeptide Y
 colonic motor function and, 236
 feeding stimulated by, 147
 regulation of energy balance and, 157
 sigma ligands and, 244

Neuropeptides, CRF family of, 1

Newcastle disease virus, 189

Nitroprusside, 178

Norepinephrine, fetal ethanol exposure and, 90

Norepinephrine metabolism, 189

Nucleus paragigantocellularis, 174

Obesity, CRF regulation of energy balance and, 156

Obsessive-compulsive disorders, 269

Opioid peptides, 122

Oxytocin, 235

Pancreatic secretions, 256

Parabrachial nuclei, 55

Paraventricular nucleus of the hypothalamus, 54, 119
 gastric motor function and, 234
 clusters of neurons in, 155
 CRF neurons in, 145

Pathophysiologic significance of
 gastrointestinal effects of CRF, 257

Pathophysiology of restraint-induced ulcers, 231

Peptide depletion rate, 42

Peptide makeup, changes in, 44

Phenelzine, 183

Phenotypic plasticity of CRF neurons, 39

Pigs (*see also* Porcine stress syndrome), 275

Pituitary
 CRF receptors in, 11
 IL-1 receptors in, 18

Pituitary function, changes in peptide signal and, 47

Placental-derived CRF, 4

Plus-maze, 146

Porcine stress syndrome, 285

Postnatal handling, 79

Pregnancy, influence of stress on, 279

Prostaglandin system, 126, 261

Psychoendocrinology of stress, 61

Psychosocial variables, 61

Puberty, precocious, and stress, 281

Push-pull cannula, 121

Reproduction
 cyclic fashion of, 106
 interference of, by stress, 117

Restraint ulcer, 229

Sauvagine, 6

Separation of mothers and infants, 62
 HPA responses to stress and, 80

Serotonin, CRF mediation of effects of, 162

Sertraline, 183

Sex difference, effects of ethanol and, 91

Sheep, 275

Sheep shearing stress, 285

Sigma ligands, 236

Sigma receptors, 244-245

Signal
 changes in peptide makeup and, 45
 glucocorticoid negative feedback, 75

Social stressor, 146

Spleen, CRF receptors in, 12

Squirrel monkey, 62

Stereotypy, 269

Stress
 acoustic, 255
 adrenocortical response to, 71
 amygdaloid CRF pathways and, 53
 beta-endorphin responses to, 88
 brain-endocrine-immune responses to, 9
 CRF mRNA and, 28
 domestic animal disease and, 285
 emotional, 247
 estrous cycle and, 275
 gastric function and, 233
 gastric lesion and, 229
 health relevance of, 203
 human reproductive function and, 117
 immune suppression by, 203
 infection-induced, role of cytokines in, 189
 limbic system and, 142
 locus coeruleus as site for integrating CRF
 during, 173
 luteolysis and, 277
 male reproduction and, 280

phenotypic plasticity of CRF neurons
 during, 39

pregnancy and, 279

prenatal, 82

psychoendocrinology of, 61

puberty and, 281

reproduction in domestic animals and, 275

reproductive proficiency and, 106

ulcer disease and, 260

Stress quantitation, 229

Stressors, 235

Stria terminalis, bed nucleus of, 54

Sympathetic activation, 209

Temperament, 273

Testis, IL-1 receptors in, 19

Thermogenesis, diet-induced, 156

Tryptophan, 191

Tumor necrosis factor-alpha, 196

Urotensins, 6

Vasopressin, 235
 neuroendocrine control of adrenal axis
 and, 108

Ventromedial hypothalamic nucleus, 147

Index of Contributors

Behan, D. P., 1-8
Bhatnagar, S., 70-85
Bonaz, B., 233-243
Bonfils, S., 229-232

Chowdrey, H. S., 28-38

Dallaire, A., 269-274
De Goeij, D. C. E., 39-52
DeRoth, L., 285-292
De Souza, E. B., 9-27
Dunn, A., 189-202

Ferin, M., 106-116
Fischer, W., 1-8
Foote, S. L., 173-188

Gray, T. S., 53-60
Gué, M., 244-253

Harbz, M. S., 28-38
Heinrichs, S. C., 142-154

Irwin, M., 203-218

Junien, J. L., 244-253

Knights, R. A., 28-38
Koob, G. F., 142-154

Larocque, S., 70-85
Lenz, H. J., 254-259
Levine, S., 61-69
Lightman, S. L., 28-38
Ling, N., 219-228
Liptrap, R., 275-284
Lowry, P. J., 1-8

McCormick, C., 70-85
Meaney, M. J., 70-85
Menzaghi, F., 142-154
Merlo Pich, E., 142-154
Mönnikes, H., 233-243

Namiki, M., 260-268

Page, M. E., 173-188
Plotsky, P. M., 70-85
Potter, E., 1-8

Richard, D., 155-172
Rivest, S., 117-141
Rivier, C., ix, 97-105, 117-141
Rivier, J., 233-243

Schmidt, E. D., 39-52
Shanks, N., 70-85
Sharma, S., 70-85
Smythe, J., 70-85
Sutton, S., 1-8

Taché, Y., ix, 233-243
Thomas, H. A., 219-228
Tilders, F. J. H., 39-52

Uehara, A., 260-268

Vale, W. W., 1-8
Valentino, R. J., 173-188
Viau, V., 70-85

Wei, E. T., 219-228
Weinberg, J., 86-96
Weiss, F., 142-154